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ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _19 July 2006_.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-9,11-15 and 17-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-9, 11-15 and 17-20_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This Non-Final Office Action is in response to Applicant's amendment filed July 19, 2006. Applicant's amended claims 11-13. Currently claims 1-9, 11-15 and 17-20 are pending.

Response to Amendment

2.   The 35 U.S.C. 112(2) rejection of Claims 11-13 is withdrawn in response to Applicant's amendments to claims 11-13.

Response to Arguments

3.   Applicant's arguments, see Last Two Paragraphs, Page 8, filed July 19, 2006, with respect to the rejection(s) of claim(s) 1 over Advanced Decision Environment for Process Tasks (ADEPT) in view of Schulz et al., Architecting Cross-Organizational B2B Integration (2000) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of ADEPT in view of Schulz et al. and further in view of Alturi et al., Enforcing Mandatory and Discretionary Security in Workflow Management Systems (1996) as cited in Notice of References Cited (PTO-892) mailed March 27, 2006 (reference u1).

In the Applicant's remarks filed July 19, 2006 applicant challenges the 35 U.S.C. 103(a) rejection of claims 14-15 and 17-20 over Advanced Decision Environment for

Process Tasks (ADEPT) in view of Workflow Management Coalition Workflow Standard

Interoperability (1998; Remarks: Pages 9-10) specifically arguing that:

- the Workflow Management Coalition Workflow Standard Interoperability's out-

of-order message handling capabilities are only directed to Internet messaging (email

MIME messaging);

- the rejection makes improper use of hindsight reasoning; and

- there is no suggestion or motivation to combine the cited references.

In response to Applicant's argument that the WFMC Interoperability Standard's

message handling capabilities only apply to the handling of email messages (MIME) the

examiner respectfully disagrees.

WFMC teaches "This document corresponds to the Workflow Management

Workflow Standard - Interoperability Abstract Specification [WfMCI012], which provides

an **abstract** specification that define the functionality *necessary* to achieve a defined

level of *interoperability between two or more workflow engines*. This document defines

a binding that give concrete type definition and message format for the realization of the

abstract specification, using internet e-mail with MIME encoding as the transport

mechanism." (emphasis added; Section 2, Page 5) wherein the specific "transport

mechanism"/protocol merely represents one of a plurality of possible message

formats/syntax/protocol that could be used to support the communications between the

interoperating workflow systems. For example Anderson et al.; Workflow

Interoperability (1999; Number 3, Page 5) teach utilizing several transport

mechanisms/message protocols (jFlow, SWAP, etc.) to coordinate processes

(collaborative business processes, inter-enterprise workflows, agents, cross-

organizational workflows, etc.).

Further it is noted that utilizing messaging to support inter-process/inter-system

communication/collaboration in agent-based and/or workflow systems is old and very

well known as evidenced by at least the following:

- Chen et al., Dynamic Agents for Dynamic Service Provisioning (1998); Column 2,

   Bullet 1, Page 3; Section 3.3, Page 6;

- Johannesson, Paul, A Process Broker Architecture for Systems Integration

   (1999); Page 5; Figure 8; and

- BEA Weblogic Collaborate Enabler for RosettaNet (2001); About RosettaNet,

   Page 2; Page 86; Figure 1.

In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., that the inter-process communications mechanism exclude the use of the MIME

protocol) are not recited in the rejected claim(s). Although the claims are interpreted in

light of the specification, limitations from the specification are not read into the claims.

See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, both the Advanced Decision Environment for Process Tasks

(ADEPT) in view of Workflow Management Coalition Workflow Standard Interoperability

(WFMC, 1998) are directed to the same field of endeavor (workflow management) and

represent a common body of knowledge well known to those skilled in the art, as

evidenced by the inventor's citing of the WFMC in at least the following article(s): Chen

et al., Inter-Enterprise Collaborative Process Management (2000; Last Paragraph, Page

4; Figure 4; [34], Page 18) and Chen et al., How Agents from Different E-Commerce

Enterprises Cooperate (2000; [26], Page 17).

The Workflow Management Coalition, found in 1993, is a non-profit industry

consortium of leading workflow vendors (e.g. IBM, Vitria Technology) wherein the

coalition's charter/mission is promote and develop the use of workflow through the

establishment of standards for software terminology, **interoperability** and *connectivity*

between workflow products. The Workflow Management Coalition is the primary

standards body for the workflow software market.

In response to applicant's argument that the examiner's conclusion of

obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was

within the level of ordinary skill at the time the claimed invention was made, and does

not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA

1971).

It is noted that the applicant did not effectively challenge the Officially Noticed

fact(s) cited in the previous office action(s) therefore those statements as presented are

herein after prior art. Specifically it has been established that it was old and well known

in the art at the time of the invention:

- to use message queues and/or Object Request Brokers to manage/facilitate

the communication/collaboration between systems (objects, agents, etc.) as well as to

enable peer-to-peer communications across networks;

- to specify one or more process/workflow parameters including such

parameters as security/access control (scope of variables, objects, etc.), initial data, or

the like in a template (class) wherein the templates ensure that all items (processes,

agents, contracts, roles, etc.) created (instantiated) using the template are initialized

with the appropriate default/initial parameters;

- to associate (include) scope (access control, security, usage, etc.) with a more

than one agent, user, role, application, system or the like; and

- to utilize any of a plurality of well known mechanisms, methods, techniques and approaches to exception (error) handling; specifically the well-known technique for exception handling in which a system reviews exception messages (alerts, signals, etc.) as they are received, halting (interrupting) execution when the exception is detected (received) that matches a particular criteria or rule and not halting (continuing) the execution when the exception received does not meet a particular criteria rule.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-4, 6-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Advanced Decision Environment for Process Tasks (ADEPT)

features, capabilities and/or characteristics of ADEPT being disclosed in at least the

following references:

I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for

business process management (1996) herein after reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after reference B.

III. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after reference D.

IV. Jennings, N.R. et al., Autonomous Agents for Business Process

Management (2000), herein after reference E.

in view of Schulz et al., Architecting Cross-Organizational B2B Integration (2000)

and further in view of Atluri et al., Enforcing Mandatory and Discretionary Security in

Workflow Management Systems (1996).

Regarding Claim 1 Advanced Decision Environment for Process Tasks (ADEPT)

teaches a computer implement method for managing a collaborative process that

involves at least a first player in a first enterprise having a first collaborative process

manager and a second player in a second enterprise having a second collaborative

process manager (agents; reference A: Pages 1-11; Figures 1-4; reference B: Pages 1-

12; Figures 1-2, 6-7 and 10; Page 9; Figures 2, 3 and 5; reference D: Pages 1-3;

Figures 1-5) comprising:

- defining an inter-enterprise collaborative business process including templates

(definitions, standards, process definitions, SLA templates, etc.; reference E:

Paragraphs 1-2, Page 156) and having a plurality of work nodes (agents/agencies

executing/managing a plurality of services and tasks collaboratively; wherein each work

node has a task role identifier (identifier, agent name, service name) for specifying one

of the first player and second player as responsible for execution of the work node

reference A: Page 1, Paragraph 1, Line 6-7; Page 2, Paragraph 2, Lines 1-3; Page 2,

Paragraph 4, Lines 1-2; Page 6, Paragraph 3, Lines 1-2; reference B: Page 2,

Paragraph 2, Lines 1-3; Page 3, Paragraph 1, Lines 1-3; Figure 1, Page 3; Figure 2;

reference D: Page 2, Paragraph 2, Lines 3-5; reference E: Last Paragraph, Page 147;

Figure 1) and the template (process, process definitions) includes definitions (values,

methods, service descriptions, etc.) and a (sharing) scope (hierarchy, topology,

organizational relationship, social context, interrelationships, etc.;) that is one of public

and process role specific (reference E: Bullets 3-6, Page 168; Paragraph 3, Page 172;

"uses AM information about the agent's relationship with the potential service provider

(SAME-ORGANIZATION, EXTERNAL-ORGANIZATION) to set the strategy.",

Paragraph 1, Page 174);

- the first/second collaborative business process management executing an

(first/second peer) instance of the collaborative business process (e.g. multiple

collaborative process managers/agents/agencies executing an instance of the

collaborative business process; reference A: Page 1, Paragraph 1, Line 6-7; Page 2,

Paragraph 2, Lines 1-3; Page 2, Paragraph 4, Lines 1-2; Page 6, Paragraph 3, Lines 1-

2; reference B: Page 2, Paragraph 2, Lines 1-3; Page 3, Paragraph 1, Lines 1-3; Figure

1, Page 3; reference D: Page 2, Paragraph 2, Lines 3-5; reference E: Last Paragraph,

Page 147; Paragraph 1, Page 148);

- specifying the (sharing) scope of at least one process/communication

(template, process definition) to keep data private between the first and second

collaborative process managers (reference E: "The communication channel between

any two negotiating agents is private.", Bullet 5, Page 168; reference E: Bullets 3-6,

Page 168);

- wherein the peer instances (first/second) form a logical execution instance

(process instance; reference A: Figure 1; reference B: Section 2.2, Pages 6-8;

Paragraph 2, Page 12; Bullets 1-3, Page 15; Figures 3, 7); and

- communicate through messages for information exchange and synchronization

(information exchange, negotiation, synchronization, communication, etc.; reference A:

Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent communication,

Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1 Communication, Pages 8-9;

reference B: Page 4, Paragraph 3, Communications Module; reference E: Last

Paragraph, Page 163; Table 1).

ADEPT further teaches that the system/method utilizes the well known

techniques of encapsulation and abstraction in order to enable the collaborative process

managers to hide internal/private business processes of the agents and expose/publicly

provide only the services/processes necessary to complete the public collaborative

process (reference E: "it is neither necessary for the agent requiring the "cost and

design network" service to know how this is achieved, nor is it necessary for the

department manager to known how to design a network or survey the geographical

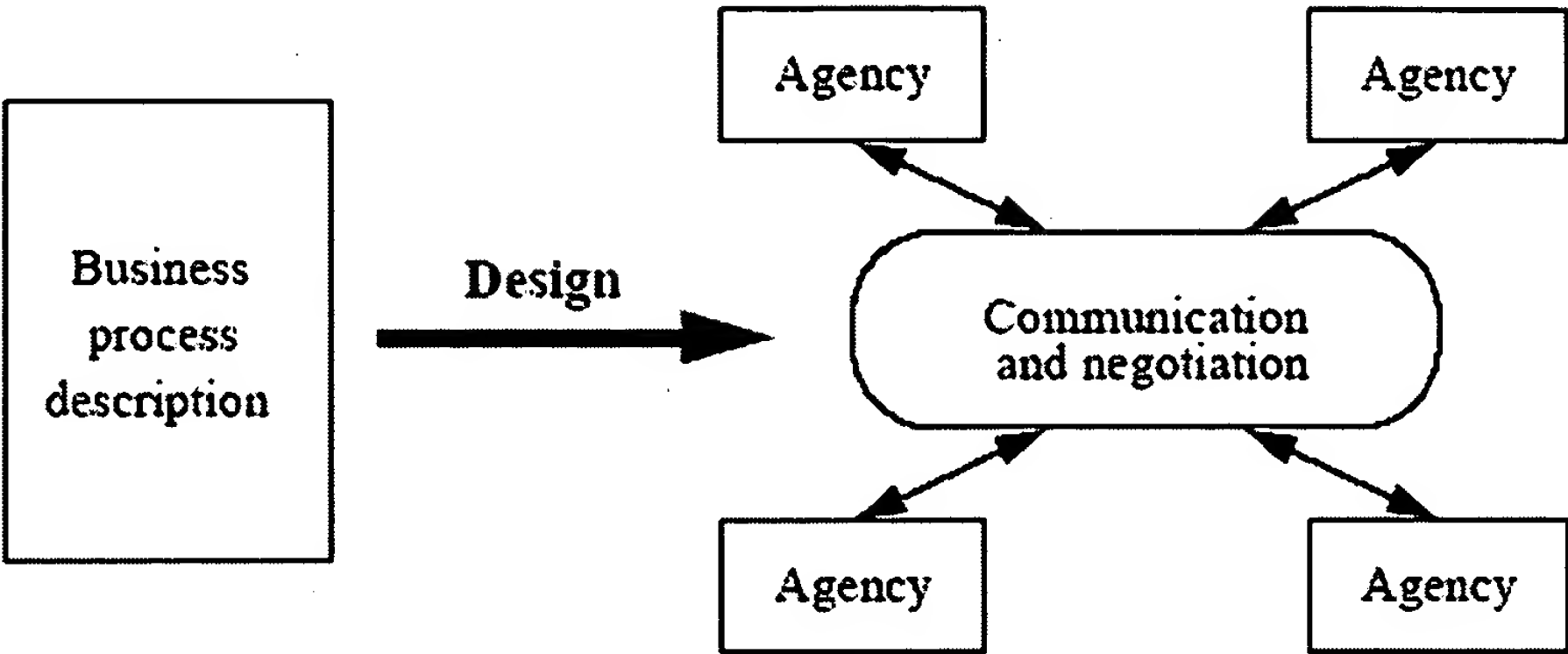requirements." Paragraph 1, Page 155; Paragraph 2, Page 154).

figure 1 Designing an agent-based business process management system.
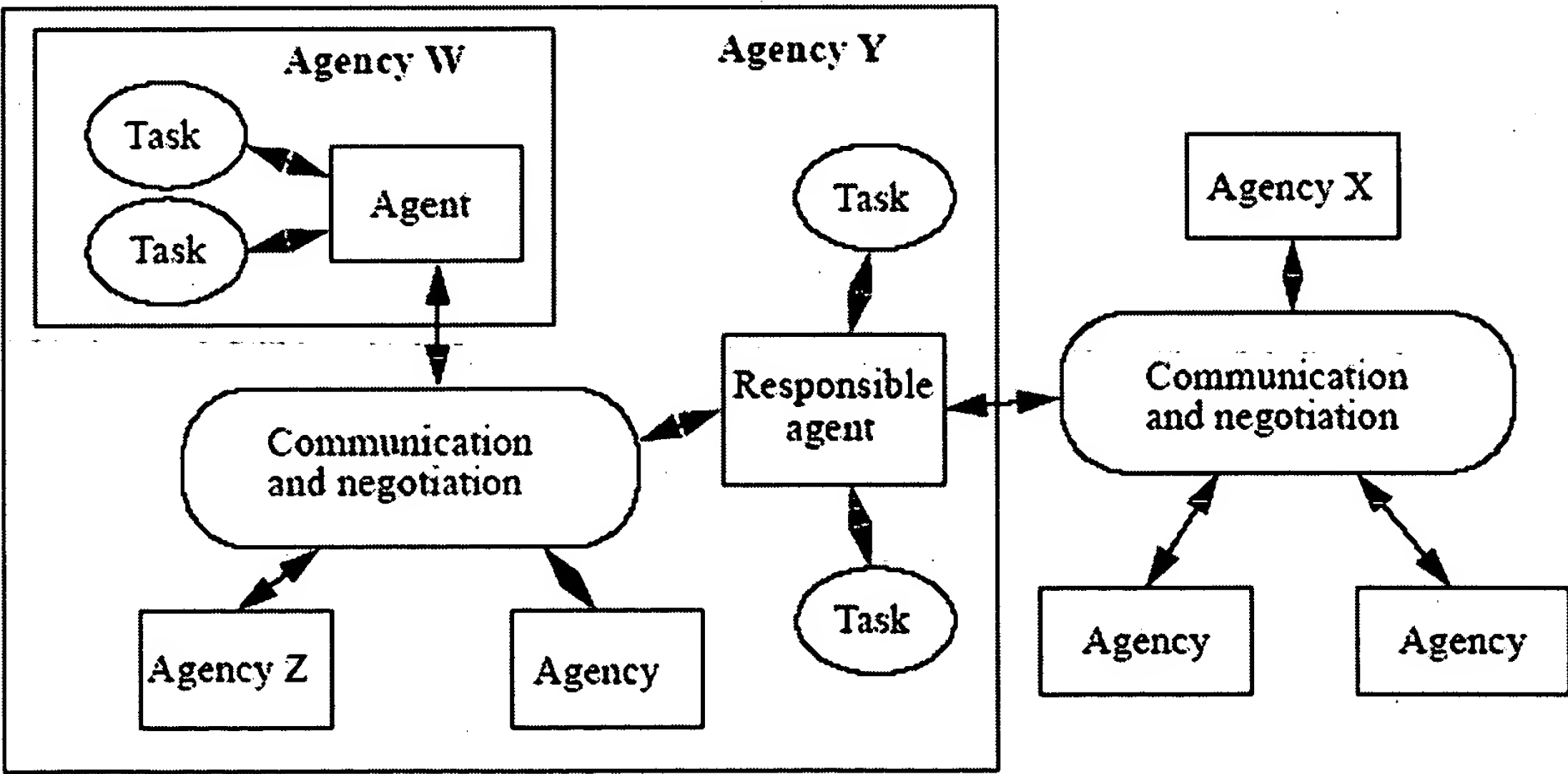
Figure 1: Figure 1, reference A

figure 2 The logical hierarchy of agencies.

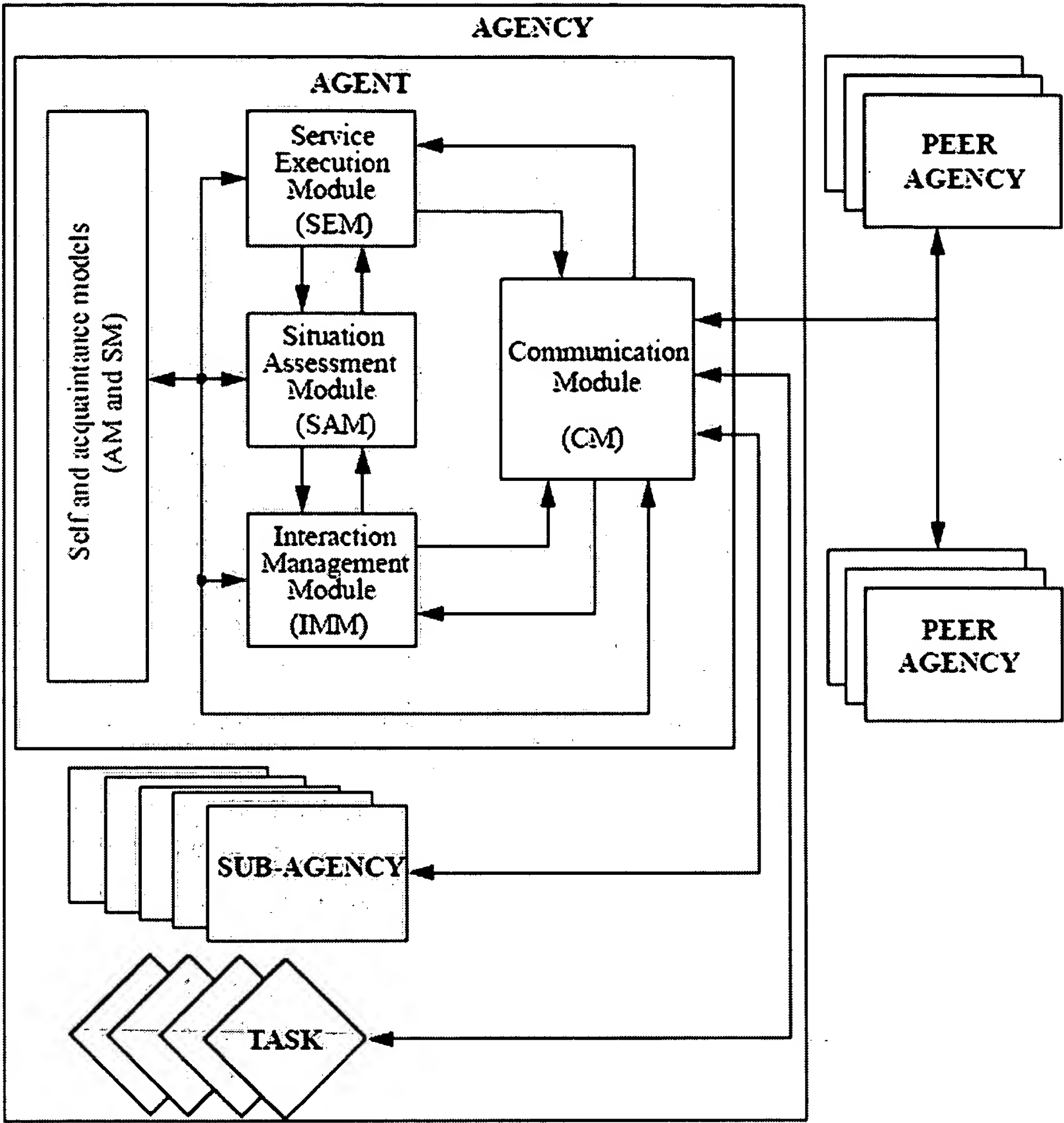**Figure 2:** Figure 2, reference A

figure 3 An agent architecture.

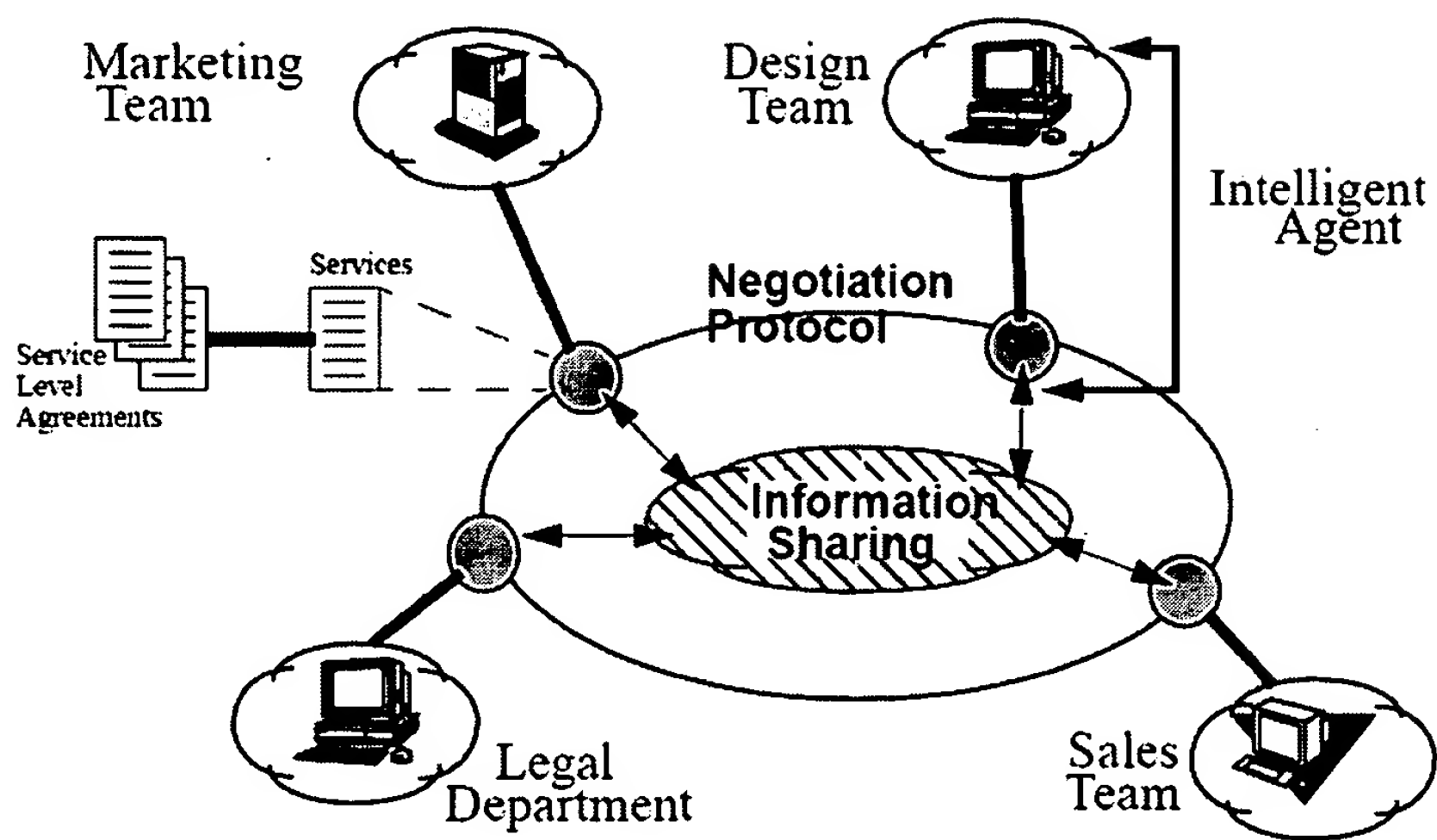**Figure 3: Figure 3, reference A**

FIGURE 1. An ADEPT Environment
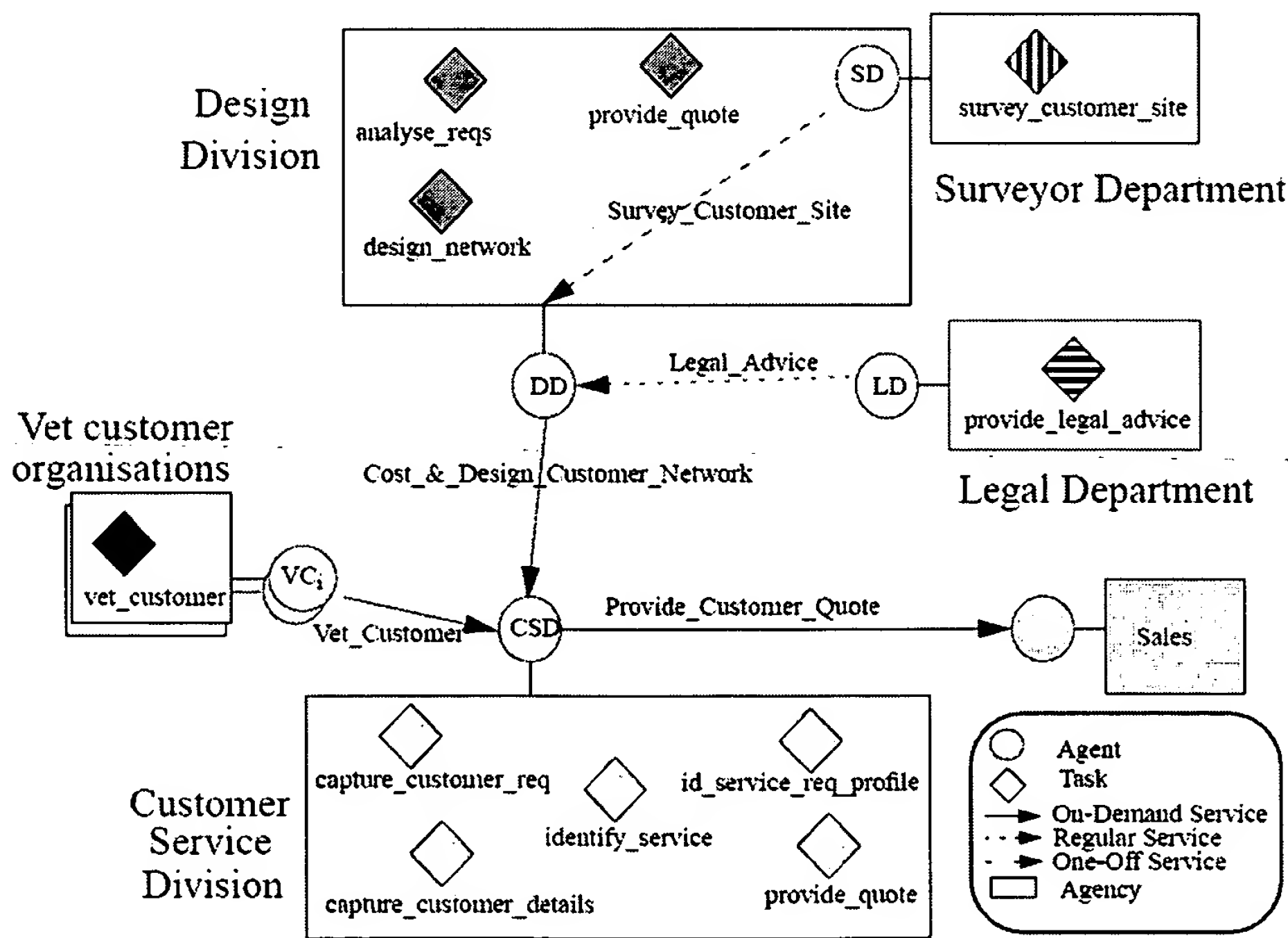
Figure 4: Figure 1; Reference B

FIGURE 7. Agent System for the Provide Customer Quote Business Process

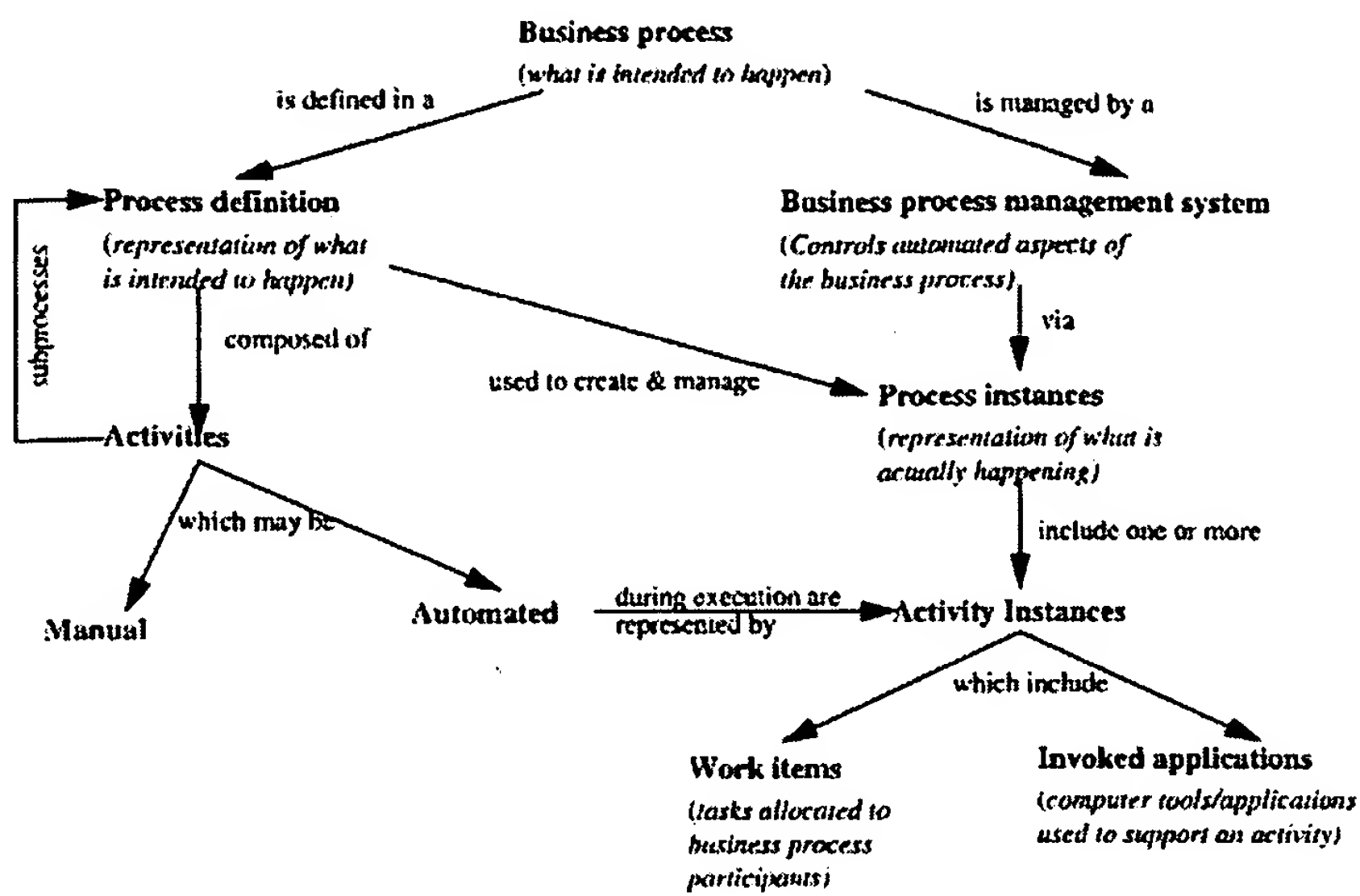Figure 5: Figure 7, reference B

FIGURE 1. Constituent components of a business process (adapted from Hollingsworth (1994)).
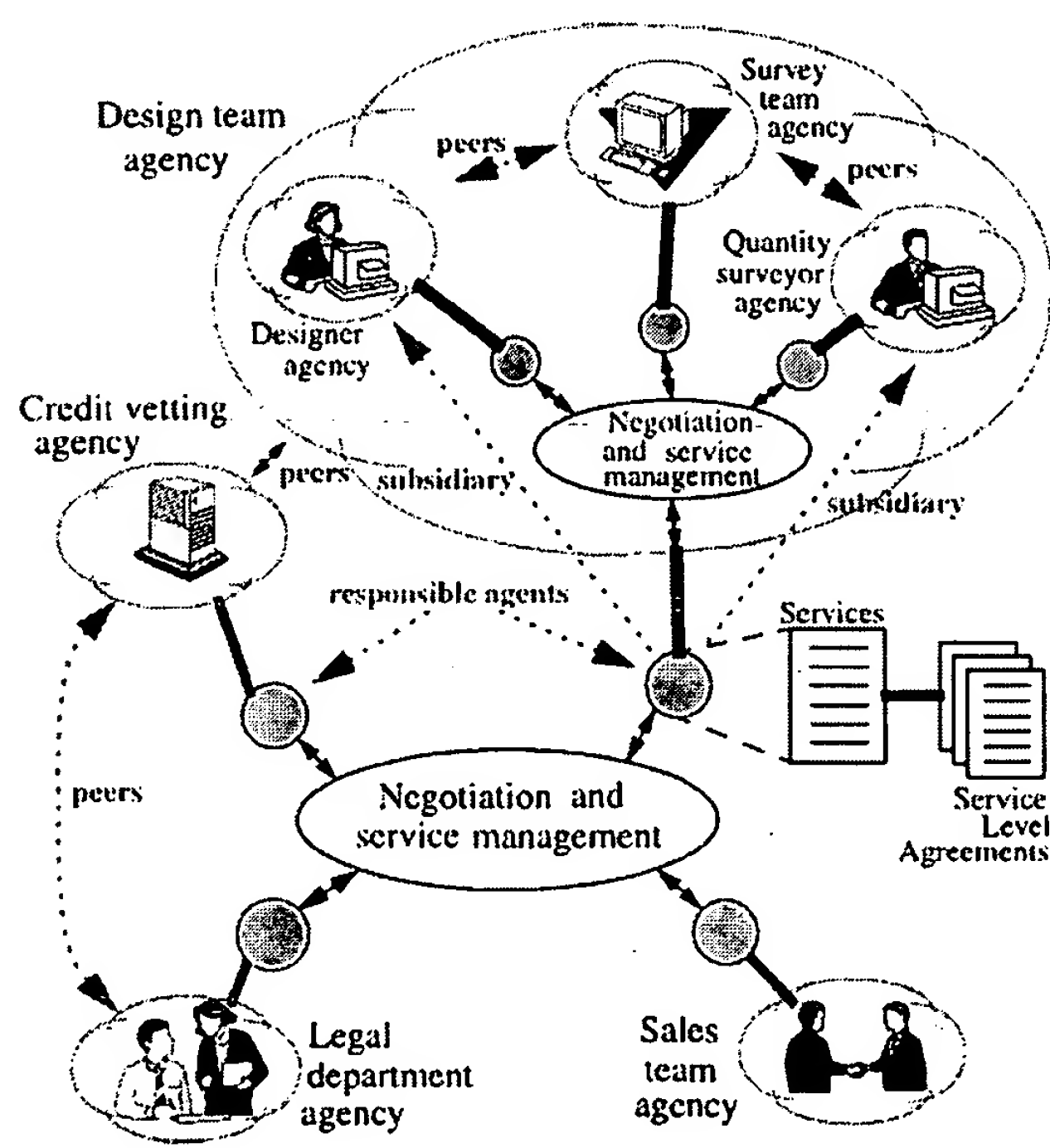
Figure 6: Figure 1, reference E

FIGURE 2. The conceptual architecture of an ADEPT system.
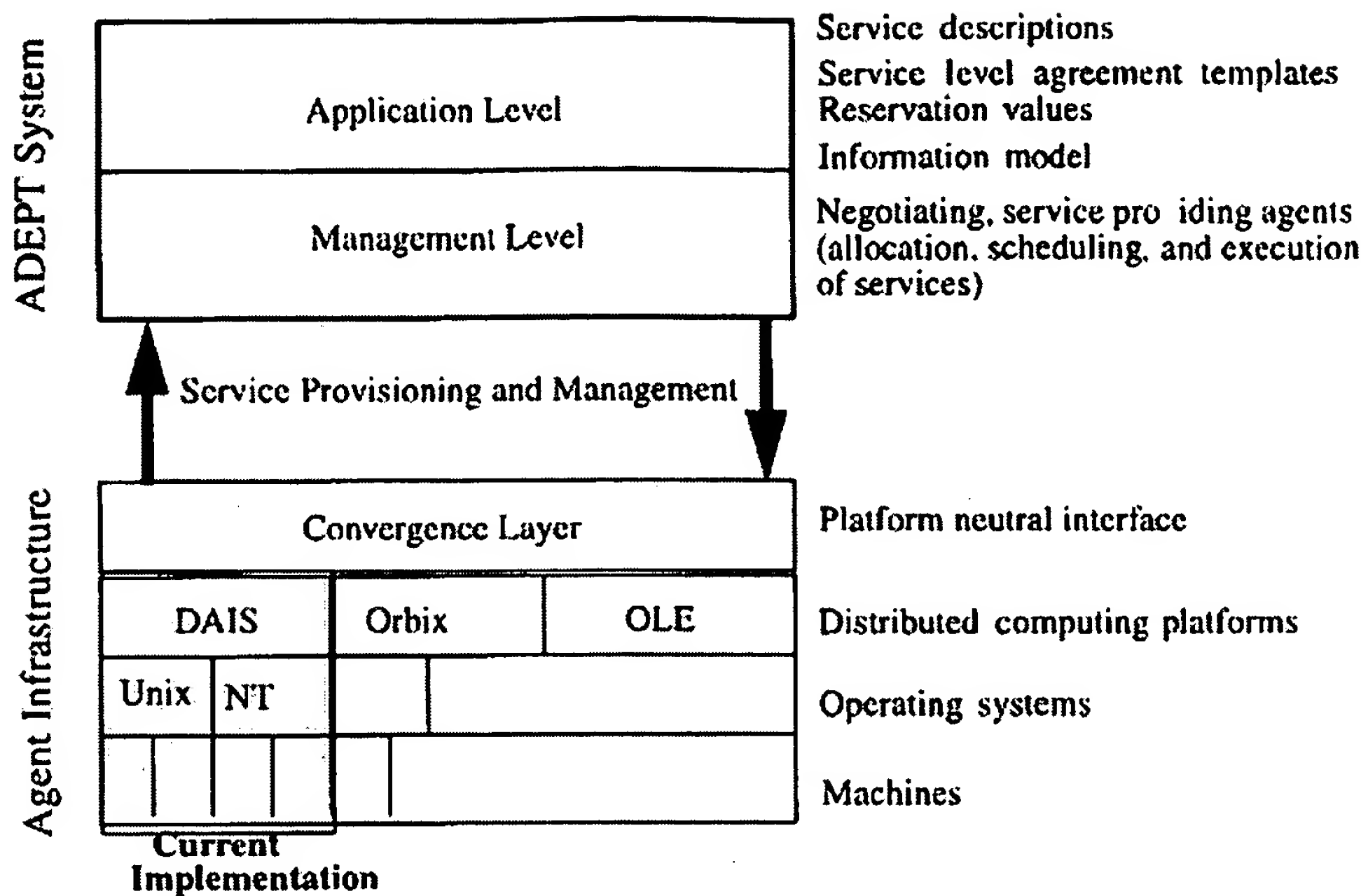
Figure 7: Figure 2, reference E

FIGURE 4. The ADEPT implementation system.

Figure 8: Figure 4, reference E

ADEPT does not expressly teach process (template, service, etc.) having a

(sharing) scope that is labeled public as claimed.

Schulz et al. teach defining a sharing scope for templated and role-specific

business processes and public and private in an analogous art of multi-enterprise

collaborative process management (business-to-business, B2B) for the purposes of

keeping data (processes, internal operations, etc.) private between the plurality of

collaborative process managers ("We propose a model for tiering business processes

into organizations' private business processes and shared business processes that

interconnect them. Private business processes can expose interaction points and

shared processes can link to these points so that an overall business process may span two or more organizations. The interaction points can selectively expose information about an organization's processes, process tasks and roles.", Abstract; Section 4.2 Private and Shared Process Tiers, Pages 95-96; "One possibility is that a role from one organization is only given a permission to invoke an exposed private business process of another organization.", Paragraph 3, Column 2, Page 96).

More generally Schulz et al. teach a system/method for managing both the private and public (shared) business processes associated with multi-enterprise collaborative process management through enabling the interoperability of collaborative process managers (business process brokers, workflow engines, workflow management systems/methods; Abstract; Section 5 Business Process Framework Architecture, Pages 98-100; Figure 3). Schulz et al. teach that the system/method enables organizations to keep certain aspects of the internal business processes private as well as providing role-based secure access to those exposed processes (Abstract; Paragraph 1, Column 1, Page 93). Schulz et al. teach the availability of a plurality of collaborative business process methods/systems wherein the methods/systems provide templated collaborative processes that include definitions (e.g. RosettaNet, EDOC, ebXML; Section 2 Process Interoperability Standards; Page 93) and that there are a plurality of well known methods (approaches) that enabling inter-process communication (messaging, data sharing, direct interaction/connection, etc.; Section 2.2 Common Interfaces; Page 94).
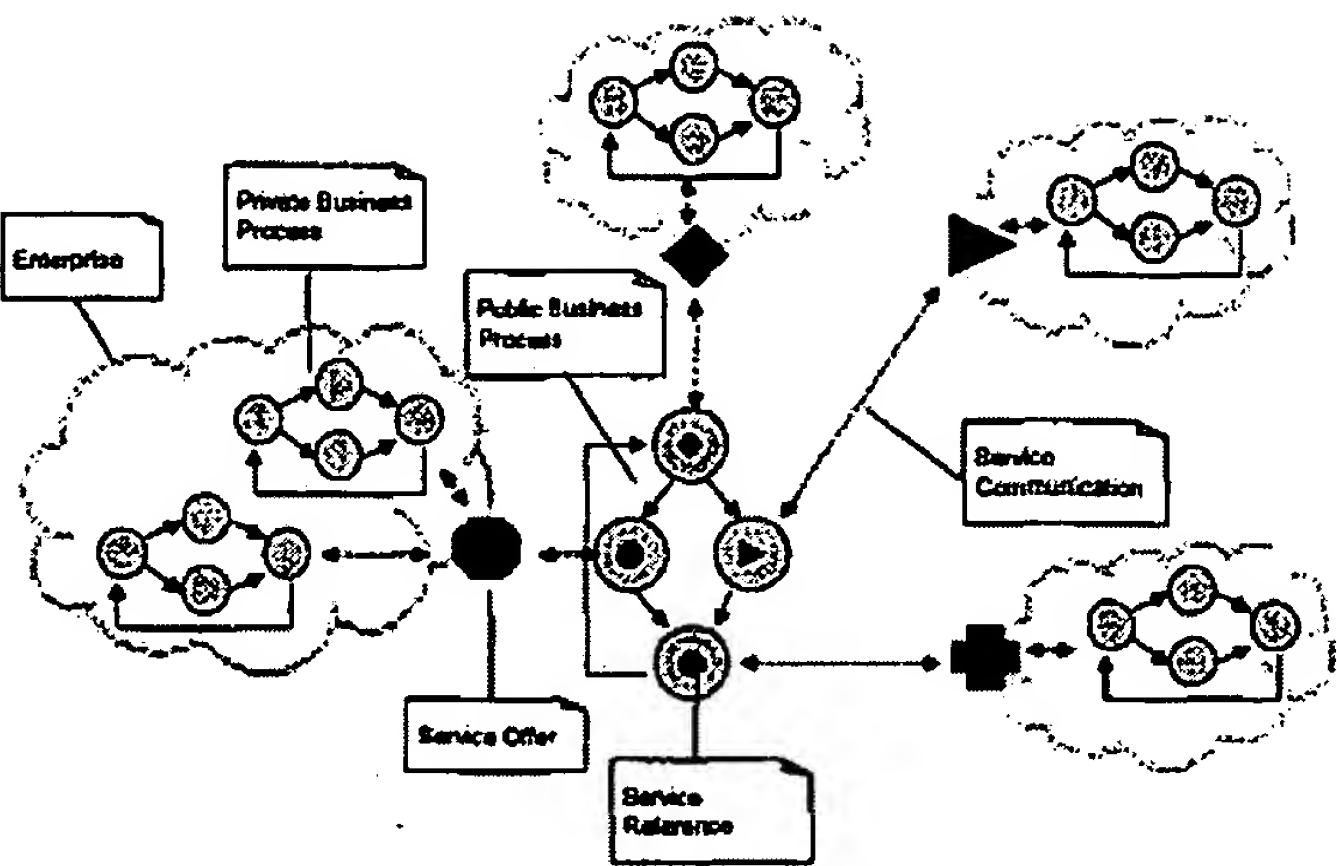
Figure 1 Business Process Tiers
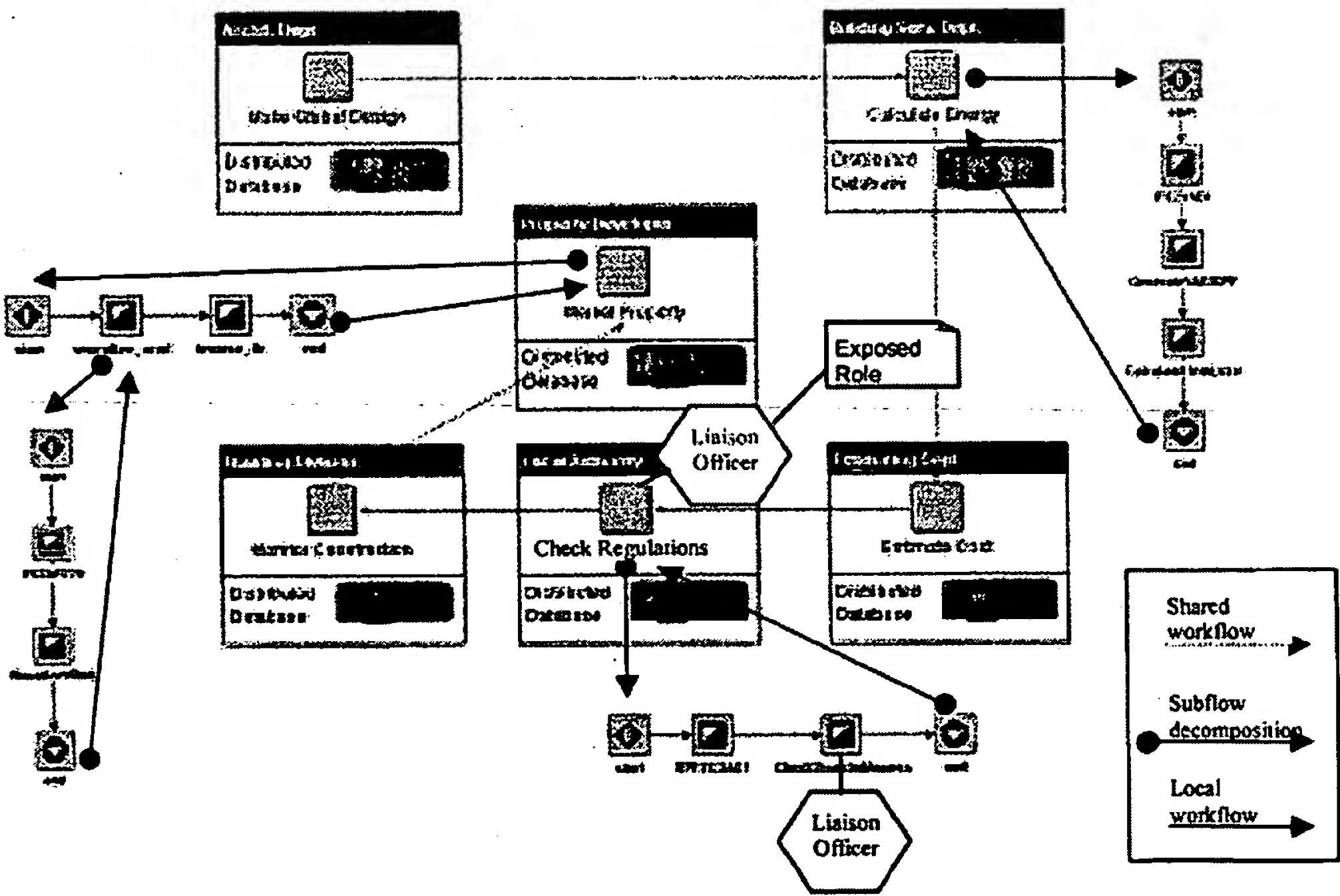
Figure 9: Schulz et al., Figure 1

Figure 2: Example of a B2B Process

Figure 10: Schulz et al., Figure 2

It would have been obvious to one skilled in the art at the time of the invention that the system/method for managing collaborative business processes as taught by ADEPT would have benefited from denoting a process's (template, process definition, collaborative process manager interaction) sharing scope as public and/or private in view of the teachings of Schulz et al.; the resultant system/method enabling entities to keep data (processes, internal operations, etc.) private between the plurality of collaborative process managers (Schulz et al.: Abstract).

Further it is noted that the phrases "public" and "sharing" in relation to the scope of a process merely represents non-functional descriptive material and is not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific label used to denote the scope of the process/process template. Further, the structural elements remain the same regardless of the specific label used to denote the scope of the process/process template. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.*

Neither ADEPT nor Schultz et al. expressly teach using templates for keeping data private between two collaborative process managers (i.e. that the sharing scope is defined/specified in a template) as claimed.

Alturi et al. teach using templates for keeping data private between a plurality of

collaborative process managers (workflow systems/subsystems, agents, engines, etc.;

Authorization Template, Workflow Authorization Model; Last Paragraph, Page 2;

Paragraph 2, Page 16; Last Paragraph, Page 19; Last Paragraph, Page 21; Footnote

11, Page 21) in an analogous art of managing collaborative processes/workflows for the

purposes of enforcing a security policies (template) in a workflow management system

such as role-based, event-based, temporal/time-based authorization (Paragraph 1,

Page 2) as well as enforcing workflow task/activity dependencies (control, value,

external etc.; Paragraphs 3-4, Page 5).

Alturi et al. further teach that most commercial workflow management systems

enforce security based on organizational roles (Paragraph 4, Page 24).

It would have been obvious to one skilled in the art at the time of the invention

that the system and method for managing collaborative business processes as taught

by the combination of ADEPT and Schulz et al. would have benefited from   -

defining/specifying the sharing scope (security policy) using templates (e.g.

authorization templates) in view of the teachings of Alturi et al.; the resultant

system/method providing an authorization/security model for the inter-enterprise

collaborative business processes (workflows) thereby ensuring such things as granting

authorization to the collaborative process managers (agents) only when it is necessary

and/or required (Alturi et al.: Paragraph 2, Page 16).

Regarding Claim 2 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes wherein the collaborative business

processes is executed/managed by a plurality of collaborating agents/agencies

(collaborative process managers) that provide (serve) and receive (client) services

(tasks, etc.) and further wherein the collaborative process managers (agents) executing

the business process comprise: (service execution, situation assessment,

communication, and interaction modules; reference A: Section 3, Pages 7-11; Figures

1-3; negotiation, resource management and enactment modules; reference B: Figure 7;

reference D: Section 4, Pages 8-12; reference E: Last Paragraph, Page 178;

Paragraph 1, Page 179; Bullet 1, Page 180):

   - a collaborative process manager (agent) receiving a task (request for service,

message; reference D: Steps 1-2, Page 10);

   - a collaborative process manager determining if the task is its responsibility

(situation assessment, negotiation, interaction module; evaluate proposals; reference B:

Paragraph 4, Page 4; reference D: Steps 2-4; Pages 10-11);

   - when the task is the responsibility of the collaborative process manager,

executing the current task (enactment, action, accepting proposal, providing/executing

request service; invoke service; service level agreement, contract, etc.; reference B:

Pages 3, 5; Paragraph 3, Page 4; reference D: Step 4, Pages 10-11); and

   - when the task is not the responsibility of the collaborative process manager, not

executing (ignoring, forwarding, rejecting, delegating, etc.) the task (reference B:

Paragraph 4, Page 4; reference D: Step 3, Pages 10-11).

Regarding Claim 3 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes wherein the when task is the

responsibility of the collaborative process manager (agent), executing the task further

comprises (reference B: Sections 2.1-2.2, Pages 4-8; reference D: Section 4, Pages 8-

12; reference E: Pages 161-162):

- scheduling the task (reference B: Interaction Module, Pages 4-5; reference B:

situation assessment module, Paragraph 1, Page 5);

- dispatching the task for execution (forwarding, delegating, resource

management; reference A: Paragraph 1, Page 8; reference D: Section 4.2, Pages 10-

11, Steps 1-4);

- upon completion of task generating a message (service results; reference B:

Paragraph 3, Page 4; reference D: return, delivery, Steps 3 and 5; Pages 10-11); and

- sending a message (service request) to another collaborative process manager

(agent/agency; reference B: situation assessment module, communication module,

interaction module, Pages 4-5; Figure 2; reference D: Section 4.2, Pages 10-11).

Regarding Claim 4 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes wherein when the task is not the

responsibility of the collaborative process manager, not executing (invoking) the task

further comprises (reference B: Sections 2.1-2.2, Pages 4-8; reference D: Section 4,

Pages 8-12):

- not executing the task (ignore, rejecting proposal/service request,

forwarding/delegating; reference B: Paragraphs 3-4, Page 4);

- waiting for a message (service request) from another collaborative process

manager (agent/agency; reference D: Steps 1-4, Pages 10-11); and

- receiving a message (service request) from another collaborative process

manager (agent/agency; reference D: Steps 1-4, Pages 10-11).

ADEPT further teaches that the system utilizes messaging/messages to

request/provide services amongst the plurality of collaborative process

managers/agents wherein the agents to send/receive messages (service requests,

service negotiation; reference B: Paragraph 3, Page 4), wait for messages (service

requests, proposals), review/analyze messages (situation assessment, proposal

evaluation), act upon messages based on the analysis and send messages (status,

updates, etc.) after the action/task has been completed (reference B: Pages 4-5;

reference D: Steps 1-4, Pages 10-11; reference A: Page 2, Section 2.1, Paragraph 1,

Lines 5-8; Section 2.2 Inter-agent communication, Pages 4-6; Page 7, Section 3,

Paragraphs 1-2; Section 3.1 Communication, Pages 8-9; reference B: Page 4,

Paragraph 3, Communications Module).

Regarding Claim 6 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes wherein the system/method uses a

key (cooperation key, handle, identifier, symbol, etc.) to identify a logical instance of the

collaborative business process and to correlate and synchronize multiple peer instances

of the execution of a single collaborative business process (reference A: Section 3.1,

Pages 8-9; Figure 4; reference D: Section 4, Pages 8-11).

Regarding Claim 7 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes employing messages for

synchronizing the peer process instances (collaborative agents/agencies) and for

exchanging data between process instances; wherein each message includes

(reference A: Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent

communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1

Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications

Module):

- a key (cooperation key, handle, identifier, etc.) for specifying (identifying,

accessing, requesting, participating in) a logical process instance (conversationID,

informodelID, etc.; reference A: Page 9; Figure 4; reference B: agent negotiation,

Section 2.3, Page 8);

- a local handle (name, address, agent_id, registered agents, identity etc.) of the

process instance and task (message, service request, find/location agent; reference A:

Paragraph 2, Page 8; Paragraph 3; Figure 4; reference B: Figure 5; reference D: Steps

1-2, Pages 10-11; reference E: Last Paragraph, Page 156);

- a status (service results, content, body; reference D: Section 4.1, Page 8;

Section 4.2, Steps 1-4, Pages 10-11; reference E:, Last Paragraph, Page 158) and

- process data (sub-packet, packet, group, etc.) of passed to a task (message,

process manager; reference A: Paragraph 3, Page 9, Figure 4; reference B: Section

2.2, Page 6, Figures 3-4; reference E: Pages 157-158; Figure 5).

Regarding Claim 8 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes wherein a list of process roles (roles,

agencies) for indicating logical participants of the collaborative process; wherein each

work node has a task role that matches one of the process roles; and wherein a peer

process having a process role that matches the task role of a work node is responsible

for executing the work node (reference A: Pages 1-11; Figures 1-4; reference B: Pages

1-12; Figures 1-2, 6-7 and 10; reference D: Pages 1-3; Figures 1-5).

Regarding Claim 9 ADEPT teaches a computer-implemented method for

managing collaborative multi-enterprise processes providing a collaborative process

definition language (service description, service language, common communication

language/mechanism, process description, process modeling) for defining the

collaborative business process (reference A: Section 2.1, Pages 4-6; reference B:

Section 2.2, Pages 6-8; reference D: Section 4.1, Pages 8-9; reference E: Paragraph

1, Page 148; Last Paragraph, Page 155; Figure 1).

Regarding Claim 11 ADEPT teaches a computer-implemented method for

managing multi-enterprise collaborative processes wherein the step of specifying the

sharing scope of at least one template (process) includes setting the sharing scope as public (open, shared, accessible, shared information, etc.) wherein a data object is public (accessible, shared, etc.; information model, information sharing, etc.; reference B: Section 2.2, Pages 6-7; Figures 3-4; reference D: Section 4.1, Pages 8-9; Step 3, Page 8; reference E: Bullets 3-6, Page 168; Paragraph 3, Page 172; Paragraph 1, Page 174).

Regarding Claims 12 and 13 ADEPT teaches a computer-implemented method for managing multi-enterprise collaborative processes wherein specifying the (sharing) scope further comprises setting the (sharing) scope as process-role specific for a particular process role (two or more) wherein the process is accessible only to the process-role specified (reference E: Bullets 3-6, Page 168; Paragraph 3, Page 172; Paragraph 1, Page 174).

6.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Advanced

Decision Environment for Process Tasks (ADEPT) features, capabilities and/or

characteristics of ADEPT being disclosed in at least the following references:

I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for

business process management (1996) herein after reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after reference B.

III. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after reference D.

IV. Jennings, N.R. et al., Autonomous Agents for Business Process

Management (2000), herein after reference E.

in view of Schulz et al., Architecting Cross-Organizational B2B Integration (2000)

in view of Atluri et al., Enforcing Mandatory and Discretionary Security in Workflow

Management Systems (1996) as applied to claims 1-4, 6-9 and 11-13 above and further

in view of Workflow Management Coalition Workflow Standard Interoperability (1998),

herein after WFMC.

Regarding Claim 5 ADEPT teaches a computer-implemented method for

managing a collaborative multi-enterprise process, as discussed above, wherein the

step of determining the current task is not the responsibility of the collaborative (first)

process manager not executing the task further comprises (error/exception handling;

start, stop, resume, renegotiate processes/collaborations having errors/exceptions;

reference B: Paragraphs 3-4, Page 4; Paragraphs 1-2, Page 5; reference E:

Paragraphs 2-3, Page 163):

    - evaluating the current task return message to determined whether an

error/exception has occurred;

    - when an error/exception has occurred, queuing (saving, holding, etc.) the task

(return message) for later processing; and

    - when an error/exception has not occurred processing the next task by

employing the return message.

    ADEPT does not expressly teach that the error/exception is an out-of-order

condition as claimed.

    WFMC further teaches detecting and acting upon a plurality of message errors

including but not limited to "out of sequence messages", "out-of-conversation", lost

messages, duplicate messages and the like (Pages 8, 13-14, error message 207 invalid

sequence) via the management of "conversations" between the two or more workflow

management systems (process synchronization) in an analogous art of process

management for the purposes of enabling multiple process management systems

(workflow management systems) to interoperate/collaborate (Sections 2 and 5, Page 5).

    It would have been obvious to one skilled in the art that the inter-enterprise

collaborative process management system as taught by ADEPT would have benefited

from detecting and acting upon out of sequence/order messages being exchanged

amongst the collaborative process managers (i.e. conversation management) in view of

the teachings of WFMC; the resultant system/method enabling multiple process

management systems (workflow management systems) to interoperate/collaborate

(WFMC: Sections 2 and 5, Page 5).

7.   Claims 14-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Advanced Decision Environment for Process Tasks (ADEPT)

features, capabilities and/or characteristics of ADEPT being disclosed in at least the

following references:

I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for

business process management (1996) herein after reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after reference B.

III. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after reference D.

IV. Jennings, N.R. et al., Autonomous Agents for Business Process

Management (2000), herein after reference E.

in view of Management Coalition Workflow Standard Interoperability (1998),

herein after WFMC.

Regarding Claim 14 ADEPT teaches a system for allowing a first player in a first

enterprise to collaborate with a second player in a second enterprise comprising

(reference A: Pages 1-11; Figures 1-4; reference B: Pages 1-12; Figures 1-2, 6-7 and

10; reference D: Pages 1-3; Figures 1-5):

- a collaborative business process definition specified by a collaborative process

definition language (reference A: Paragraph 4, Page 2; Figure 1) and based on an inter-

enterprise business collaboration protocol (SDL, ACL, etc.; reference E: Last

Paragraph Page 156; Last Paragraph, Page 163), the collaborative business process

definition having a plurality of work nodes (collaborative agents providing and

requesting tasks and services; reference A: Paragraph 1, Page 4; Figure 2), each work

node having a task role (reference B: "sales", "marketing", Paragraphs 1-2, Page 3;

Figure 1);

    - first/second of collaborative process managers executing first/second (peer)

process instances of the collaborative business process (definition), the one or more

peer process instances having a role (services agents provide/receive, agents

representing departments, organizations, individuals, etc.); wherein the one or more

peer process instances is responsible only for work nodes (agents/agencies) that have

a role (services, tasks, etc.) that matches (related to, associated with, collaborate with)

the role of the one or more peer instances (hierarchy of agents/agencies that

collaboratively execute one or more instances/executions of the business process;

reference A: Paragraph 3, Page 3; Footnote 1; Page 3; Paragraphs 1-2, Page 4;

Paragraph 5, Page 2; Figure 2; reference B: Figure 2);

    - a peer-to-peer communication mechanism for enabling data exchange and

synchronization between the plurality of (first and second) peer process instances

(reference A: Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent

communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1

Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications

Module); and

- an error/exception handling mechanism wherein collaborative processes can be terminated, stopped, started, resume and/or renegotiated based on the error/exception (reference B: Paragraphs 3-4, Page 4; Paragraphs 1-3, Page 5; reference E: Paragraphs 2-3, Page 163).

ADEPT does not expressly teach that the system comprises an *out-of-order* handler mechanism for receiving messages from other collaborative process managers, determining whether messages are received out of order and when messages are received out of order halting execution and when messages are not out of order continuing the execution as claimed.

WFMC teach an out-of-order handler mechanism for receiving messages from other collaborative process managers, determining whether messages are received out of order ("out of sequence messages", "out-of-conversation", lost messages, duplicate messages and the like (Pages 8, 13-14, error message 207 invalid sequence) and when messages are received out of order halting execution and when messages are not out of order continuing the execution in an analogous art of collaborative process management for the purposes of for the purposes of enabling multiple process management systems (workflow management systems) to interoperate/collaborate (Sections 2 and 5, Page 5).

It would have been obvious to one skilled in the art at the time of the invention that the system for allowing a first player in a first enterprise to collaborate with a second player in a second enterprise as taught by ADEPT would have benefited from incorporating an out-of-order handler mechanism for receiving messages from other collaborative process managers, determining whether messages are received out of order in view of the teachings of WFMC the resultant system/method enabling process management systems/methods to interoperate/collaborate (WFMC: Sections 2 and 5, Page 5).

Regarding Claim 15 ADEPT a system for allowing a first player in a first enterprise to collaborate with a second player in a second enterprise further comprising a communication module (message generator) for generating a plurality of messages for the collaborative process manager (service execution, situation assessment, communication, and interaction modules; reference A: Section 3, Pages 7-11; Figures 1-3; reference B: Figure 7; negotiation, resource management and enactment modules; reference D: Section 4, Pages 8-12).

Regarding Claim 17 ADEPT a system for allowing a first player in a first enterprise to collaborate with a second player in a second enterprise further comprising a private (secure, confidential, etc.) sub-process (processes, services, sub-services) manager (agents, agencies, virtual agency, sub-agents) selectively making process data (objects, services, messages) private (confidential, secure, etc.) to a particular

collaborative process manager (reference E: "The communication channel between

any two negotiating agents is private.", Bullet 5, Page 168; Bullets 3-6, Page 168).

Regarding Claim 18 ADEPT a system for allowing a first player in a first

enterprise to collaborate with a second player in a second enterprise further comprising

a role determination module (situation assessment module, interaction module, service

execution module; reference B: section 2.1, Pages 4-5) for receiving the task (request

for service, message; reference D: Steps 1-2, Page 10), for determining whether the

current task is the responsibility of the collaborative process manager (situation

assessment, negotiation, interaction module; evaluate proposals; reference B:

Paragraph 4, Page 4; reference D: Steps 2-4; Pages 10-11), when the current task is

the responsibility of the collaborative process manager (enactment, action, accepting

proposal, providing/executing request service; invoke service; service level agreement,

contract, etc.; reference B: Pages 3, 5; Paragraph 3, Page 4; reference D: Step 4,

Pages 10-11), for scheduling and dispatching the task for execution, when the task is

not the responsibility of the collaborative process manager, not executing the task

(service execution, situation assessment, communication, and interaction modules;

(reference B: Paragraph 4, Page 4; reference D: Step 3, Pages 10-11; reference A:

Section 3, Pages 7-11; Figures 1-3; reference B: Figure 7; negotiation, resource

management and enactment modules).

Regarding Claim 19 ADEPT a system for allowing a first player in a first

enterprise to collaborate with a second player in a second enterprise employing

messages for synchronizing the peer process instances (collaborative agents/agencies)

and for exchanging data between process instances; wherein each message includes

(reference A: Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent

communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1

Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications

Module):

    - a key (cooperation key, handle, identifier, etc.) for specifying (identifying,

accessing, requesting, participating in) a logical process instance (conversationID,

informodelID, etc.; reference A: Page 9; Figure 4; reference B: agent negotiation,

Section 2.3, Page 8);

    - a local handle (name, address, agent_id, registered agents, identity etc.) of the

process instance and task (message, service request, find/location agent; reference A:

Paragraph 2, Page 8; Paragraph 3; Figure 4; reference B: Figure 5; reference D: Steps

1-2, Pages 10-11);

    - a status (service results, content, body; reference D: Section 4.1, Page 8;

Section 4.2, Steps 1-4, Pages 10-11) and

    - process data (sub-packet, packet, group, etc.) of passed to a task (message,

process manager; reference A: Paragraph 3, Page 9, Figure 4; reference B: Section

2.2, Page 6, Figures 3-4).

Regarding Claim 20 ADEPT teaches a system for allowing a first player in a first enterprise to collaborate with a second player in a second enterprise wherein a list of process roles (roles, agencies) for indicating logical participants of the collaborative process; wherein each work node has a task role that matches one of the process roles; and wherein a peer process having a process role that matches the task role of a work node is responsible for executing the work node (reference A: Pages 1-11; Figures 1-4; reference B: Pages 1-12; Figures 1-2, 6-7 and 10; reference D: Pages 1-3; Figures 1-5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Klemba et al., U.S. Patent No. 6,035,399, teach a system and method for administering security policies between two or more enterprises.

- Chen et al., U.S. Patent No. 6,983,395, teach a mutli-agent collaborative workflow system and method.

- Woo et al., Authorization in Distributed Systems (1992) teach a system and method for managing the sharing scope (access control, security, authorization) for one or more systems wherein the authorization requirements/constraints are defined in one or more templates (policies).

- Alturi et al., An Authorization Model for Workflows (1996) teach a system and method for providing inter-enterprise workflow security through a Workflow Authorization Model wherein authorization requirements/constraints/policies are defined in one or more Authorization Templates which define role, task and temporal authorizations for the collaborating systems/entities/agents.

- Chen et al., Dynamic Agents (1999) teach a dynamic agent infrastructure (system and method) for dynamic distributed systems such as inter-enterprise collaborative workflows comprising dynamic service provisioning and message-enabled agent cooperation through the use of messaging queues.

- Griss, Martin, My Agent Will Call Your Agent...(1999) teaches a multi-agent collaborative workflow system and method that utilizes well known message-based

middleware to provide message sequencing and conversational control wherein the

collaborative agents assume a legal (in-order) sequence of messages as defined in

process templates and watch for and monitor for compliance with the message

sequences (i.e. look for out-of-order messages).

    - Dayal et al., Business Process Coordination: State of the Art, Trends and Open

Issues (2001) teaches a plurality of well known business coordination (e.g. inter-

enterprise workflow) systems, method and standards (ebXML, WFMC, UDDI, etc.) as

well as the well known utilization of messaging middleware, message brokers and

transaction queue managers that enable collaborative workflows
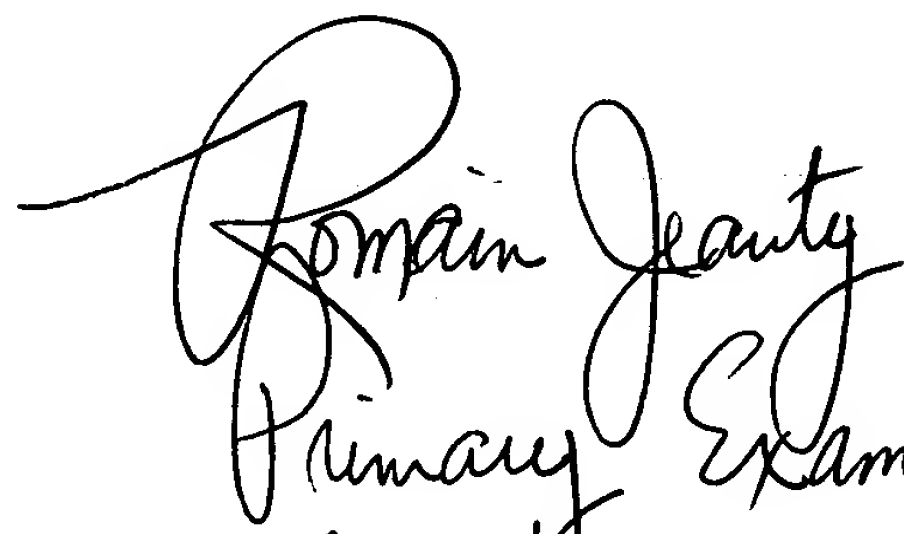
cooperate/coordinate/communicate.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-

7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SJ
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